DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON
FORT PICKETT, VA 23824

ARNG Maneuver Training Center Fort Pickett
Regulation 95-23

1 November 2010

Directorate of Plans, Training, and Security

Aviation

UNMANNED AERIAL VEHICLE FLIGHT REGULATIONS

Table of Contents

Chapter 1

General Provisions

1-1. Purpose

This regulation establishes procedures and assigns responsibilities governing Unmanned Aerial system (UAS) operations within the Fort Pickett Special Use Airspace.

1-2. Applicability

A. The provisions contained herein are applicable to all organizational elements, activities, and agencies (military or civilian) using Fort Pickett Airspace for UAS operations. For scheduling and safety purposes, an unmanned aerial vehicle is classified as a potential hazard to manned aircraft. As such there must be a vertical and horizontal or time differential separating manned and unmanned systems.

B. Liability issues prevent the MTC Fort Pickett from scheduling and approving civilian activities/organizations operating unmanned vehicles/systems within the confines of the installation unless they are a governmental body (federal or state). Civilian corporations or private activities wishing to operate unmanned systems must have a contract with a governmental agency. The contracting organization must submit the training support request and the name and contact information of the contracting officer or governmental project officer must be provided. Training requests that fail to meet these criteria will be returned without action.

C. Operation of Remotely Controlled (recreational) aircraft within the restricted area is prohibited.

D. Compliance with this regulation is mandatory.

1-3. References

References are listed in Appendix A.

1-4. Terms and Abbreviations

Terms and abbreviations used in this regulation are explained in the glossary, Appendix B.

1-5. Proponent

The Directorate of Plans, Training, and Mobilization (DPTM) is the proponent for this regulation. Users may submit waiver requests or suggested changes to DPTM.

1-6. Responsibilities

A. Directors, Commanders, Activity Chiefs, and Project Officers scheduling and using Fort Pickett Airspace will enforce this regulation. When units are engaged in training exercises or maneuvers, responsibility lies with the Unit Commander/Exercise Director.

B. Blackstone Army Airfield (BAAF) Air Traffic Control (ATC) is responsible for providing control for all airspace activities, and establishes procedures and separation standards between UASs and manned aircraft:

C. Mission Commanders of each activity operating UASs shall:

(1) Ensure that all UAS operations, procedures, and training are IAW AR 95-23, Unmanned Aircraft System Flight Regulation.

(2) Appoint a unit Safety Officer and Safety NCO with the following minimum qualifications. NOTE: The UAS Mission Commander (MC) has overall responsibility for the operation and safety of a UAS mission and should also be the Unit Safety Officer. The MC must be an employee of the federal or a state government without exception.

(a) Has completed the Fort Pickett Range Safety Officer Course and is certified by competent authority to function as the OIC or safety officer for the training activity.

(b) Be of an appropriate grade or experience level to ensure decisive and sound decisions can be made in a timely fashion.

(c) Have thorough knowledge of UAS capabilities, limitations, and safety devices of launch, control, and recovery systems.

(d) Have thorough knowledge of this regulation, Fort Pickett airspace, Fort Pickett 95-1, and other applicable references.

(3) Define the responsibilities of the MC and delegate decision-making authority to act decisively in case of an emergency or deviation of the UAS from the programmed flight path.

(4) Ensure a written UAS mission profile has been completed and/or coordinated before the UAS mission is flown (see Appendix D).

(5) Develop and maintain a written Accident Prevention Plan.

(6) Ensure that no UAS is flown outside Restricted Area 6602 (R-6602) or other assigned airspace boundary, or deviates from approved altitude or time restrictions unless approved by ATC and only after a Certificate of Authorization is on file with the installation AT&A..

(7) Ensure UAS operations are requested, scheduled and are published NLT 48 hours prior to the day of flight.

(8) Ensure that a Risk Management briefing for each participating Air Vehicle Operator (AVO) is performed IAW AR 95-23 prior to each UAS mission including maintenance test flights.

(9) Ensure the AVO uses only authorized Up-link and Down-link frequencies. For clarification or frequency assignment, contact the Fort Pickett Frequency Manager (434 292-2143).

Chapter 2

Airspace Coordination

2-1. Special Use Airspace (SUA)

A. SUA is airspace designated by the FAA with specific vertical and lateral limits, established for the purpose of containing hazardous activities or activity that could be hazardous to nonparticipating aircraft. Limitation on nonparticipating aircraft may range from absolute exclusion to complete freedom of use within certain areas, depending upon activity being conducted.

B. The Fort Pickett Special Use Airspace Complex includes the following SUA: Restricted Area 6602 (R-6602) and various Military Operations Areas (MOA) as described in FAA Order 7400.8 and FP 95-1. The MOA's are not normally used by unmanned systems because they do not meet the criteria for use.

C. UASs will not operate in the Fort Pickett airspace without prior coordination with, and approval from Range Operations and clearance from ATC.

2-2. Coordination

A. Requirements for use of, or projects that could affect use of, the Fort Pickett Airspace Complex outside of R-6602 must be given sufficient lead time to permit the necessary action by the AT&A in coordination with the Department of the Army Representative (DAR) working with the Federal Aviation Administration (FAA). Non-rule making actions, such as establishment of a temporary Military Operations Area, will require six months or longer. Rule-making airspace actions such as the establishment or modification of a Restricted Area will require in excess of one year and funds to complete applicable environmental or other feasibility studies.

B. UAS operations within the Fort Pickett airspace require detailed planning and coordination to ensure that no conflicts will arise with existing airspace usage. Normally, scheduling of the airspace must be made with the DPTS Range Scheduling Office forty-five (45) or more days in advance and will be for a specific period of time. Airspace reservations will be given on a priority basis, and use of airspace will not begin prior to or extend beyond the scheduled time period without approval.

C. The approval and scheduling of the Fort Pickett Airspace complex does not in itself indicate sole occupancy of the airspace. Sole or exclusive use of these areas will be authorized only for emergencies, safety, and/or lack of compatibility of the user's operation with other airspace users.

2-3. Restricted Area (R-6602)

A. When cleared to operate in R-6602, UASs must not fly outside R-6602 unless approved by the AT&A and cleared by ATC. This will be limited to the most direct route from the SUA to

Blackstone Army Airfield and is further limited to organizations and systems that a have a current FAA-issued Certificate of Authorization.

B. In addition to airspace approval, use of R-6602 for UAS operations requires scheduling through Plans, Training and Security Scheduling Office and publication of scheduled times on the Daily Range Bulletin.

C. Use of R-6602 for the purpose of UAS operations does not restrict manned aircraft from entering R-6602; therefore, airspace de-confliction must occur by measures such as all parties (AVO, ATC, and pilots) maintaining lateral and/or vertical distance separation, coordinating altitudes and Restricted Operation Zones (ROZ).

D. Airborne operations will not occur in the area of R-6602 and at Blackstone Army Airfield (Blackstone Drop Zone) that is active for UAS operations.

2-5. Fort Pickett Field Site Operations

A. Use of a Fort Pickett training area as a UAS launch and recovery site requires coordination and scheduling with Range Operations. Multiple launches and recoveries may be performed during the approved time frame.

B. UAS launches and recoveries will be conducted to remain in R-6602.

C. No small or mini-type UAS can launch from a field site unless radio communications exists between Range Operations and the launch site during the duration of training. Constant radio communications must be maintained between Range Operations/Blackstone tower and the users. The using activity will inform Range Operations/Blackstone tower of each launch and recovery.

D. No Shadow, or similar, or larger type UAS can launch from a field site unless radio communication exists between the AVO and ATC from launch to recovery.

E. The unit will conduct a thorough site survey prior to conducting flight operations. The survey will include, but is not limited to:

(1) Hazards that can affect the UAS operation.

(2) Suitability of landing surface.

(3) Establishment of a ROZ (if non-standard based on mission requirements) in coordination with the AT&A and Range Operations.

(a) A ROZ will be implemented upon notification that a launch is to occur and will remain in place until the UAS reaches the minimum mandated altitude. Similarly a ROZ will be issued upon notification of intent to recover the UAS and will remain in place until the UAS has been recovered. See Appendix C for installation permanent ROZ locations and description.

F. The using unit is responsible for requesting approval of any site improvement; these include, but are not limited to:

(1) Digging permits (DPW), if leveling a landing site.

(2) Environmental approval (DPW), if removing brush.

2-6. Multi-User UAS Operations: Multiple UAS activities may conduct training utilizing the same launch and recovery area and SUA provided the following minimum conditions are met:

A. All parties must have conducted coordination and agree on site location(s), frequency usage, and other established de-confliction standards and procedures deemed appropriate.

B. UASs will not conduct launches or recoveries within 15 minutes of the other platoon at the same site (i.e., if a platoon launches at 0800, then the next platoon must wait until 0815 before it may launch; this provides time separation at the launch and recovery site).

C. UASs will maintain at least 1,000 ft horizontal and/or 500 ft vertical separation from each other during the mission.

D. Prior to conducting a climb or descent, the UAS activities will coordinate with the other users to ensure they are clear of the designated climb/descent routes.

Chapter 3

Safety

3-1. General Safety Procedures

A. The MC will be present during a UAS flight mission to monitor the effectiveness of the Safety Risk Management Plan, to include maintenance test flights.

B. To provide separation between UAS and manned aircraft the following altitude restrictions apply unless otherwise authorized by the AT&A and cleared by ATC:

(1) Small UASs, such as the Raven, operating in R-6602 will normally be cleared to fly at a minimum altitude of 800 ft Above Ground Level (AGL) unless otherwise approved by the AT&A. A hard ceiling of 500 ft AGL will be imposed on rotary wing aircraft while operating within R6602.

(2) Large UASs, such as the Shadow, will normally operate at an assigned altitude between 4,000 ft to 10,000 ft Mean Sea Level (MSL). Manned aircraft (jets and helicopters) will operate no less than 500 ft above or 1,000 ft below the assigned UAS altitude.

C. AVO is required to maintain radio communication with ATC during the UAS mission and must make a communication check with Range Operations/ATC every hour. If radio communication with ATC is lost, the AVO will call ATC at (434) 292-2047 to report lost radio communication and the UAS will be recovered via the approved recovery route and altitude.

D. UAS operations may be conducted in conjunction with artillery/mortar and/or close air support within R-6602 provided separation coordination has been completed with, and approved by, Range Operations and the AVO assumes responsibility to ensure separation from artillery/weapon firing.

E. Each AVO must receive an initial and annual Range and Airspace Safety briefing prior to participating in a UAS flight mission.

3-2. Weather Requirements

A. Flight weather planning. The MC will obtain departure airfield/airport, en-route, destination airfield/airport, and alternate airfield/airport (if required) weather information before takeoff. If the weather during the mission deteriorates below the weather minimums shown below, the mission will be aborted and the UAS will return for recovery. ATC will exercise appropriate control to separate the UAS from other aircraft during a weather related recovery. The following weather restrictions apply:

(1) Flight into icing conditions: UASs will not be flown into known or forecasted severe or moderate icing conditions. If a flight is to be made into known or forecasted light icing conditions, the UAS must be equipped with adequate operational de-icing or anti-icing equipment.

(2) Flight into turbulence: UASs will not be intentionally flown into known or forecasted extreme turbulence or into known severe turbulence. UASs will not be intentionally flown into forecasted severe turbulence..

(3) UASs will not be flown unless the weather forecast and existing conditions will permit flight under Visual Flight Rules (VFR) and the following weather minimums must be met for the entire mission:

(a) At the launch and recovery site the cloud ceiling must not be lower than 1500 feet, and the horizontal visibility must be at least 3 miles.

(b) During launch, en-route, and recovery, be able to fly the UAS without getting closer to clouds than 1,000 feet from above or below and 2,000 feet horizontally, and have 3 miles flight visibility.

B. Obtaining a Flight Weather Briefing and Current Observation for Fort Pickett may be obtained as follows:

(1) Weather Briefing: By DD Fm 175-1, Flight Weather Briefing from the 15th Operational Weather Squadron, Scott AFB, IL.

(2) A current weather observation may also be obtained by calling The Mecklenburg-Brunswick Automated Weather Observation Station (434) 729-2229. NOTE: These observations are for the airfield and may not apply to a remote field site where the conditions could be worse; therefore, the MC must be able to judge the current cloud height and visibility in the field. There should be no flight activity if there is ever any doubt that the required minimum ceiling and visibility exists.

3-3. Emergency Procedures

A. AVO:

(1) If a mishap occurs during any phase (launch to recovery):

(a) Inform ATC with as much detail as possible, and keep ATC informed.

(b) Any and all mishaps involving the UAS will be promptly reported to Range Operations.

(2) Perform UAS specific mishap/emergency procedures and exercise good judgment to avoid an accident.

(3) If control of the UAS is lost, inform ATC of its last know location, heading, and altitude.

(a) The AVO must continue to attempt to regain control of the UAS and if successful inform ATC immediately.

(b) UASs with programmable guidance systems will be programmed to proceed to an approved recovery site. NOTE: The route and altitude the UAS will use during Lost-Link procedures must be approved by the AT&A and known by ATC prior to the mission.

(4) If the AVO determines that a UAS mishap involves damage to the UAS, or to other equipment or property, or injury to personnel, call 911 or on cell phone call Range Operations Firing Desk (434) 292-2227/8334.

(a) ATC: Depending on the nature of the mishap reported by the AVO, the Aircraft Pre-Accident Plan may be activated.

(b). Fire and Emergency Services (FES): Will respond IAW FP Regulation 95-1, Aircraft Pre-Accident Plan.

Chapter 4

Operations in Public Use Airspace

4-1. Authorization

All UAS operations in Public Use Airspace require a Certificate of Authorization (COA) from the Federal Aviation Administration (FAA) coordinated through the AT&A and DAR. Public Use Airspace is defined as that airspace that is not restricted or specified for sole use.

4-2. Surveillance Requirements

A. One or more methods of surveillance will be provided for all UAS operations (i.e., radar, visual, or manned aircraft). The type of surveillance will depend on the mission and type vehicle flown as specified in the COA.

B. Information obtained from the surveillance system such as position, speed, altitude, and heading will be available upon request to the Unit Safety Representative and ATC. Where manual plotting of surveillance information is necessary, the time between plots must be as short as possible.

C. If at any time the position of a UAS becomes unknown, or the UAS fails to respond to programmed "lost link" instructions, the flight will be terminated in time to preclude the possibility of impact outside the approved flight area.

4-3. Safety Factors for Operational Planning

A. Operational plans for UAS test and training flights must take into consideration the type of vehicle, results to be achieved, and the area in which operations have been approved.

B. The unit must maintain a written Airspace Safety Plan. Each Airspace Safety Plan must take into consideration:

(1) Capability of UASs, such as altitude, range, speed, wind factors, and the amount of guidance which may be commanded to the vehicle (programmed or other), deviations allowable from assigned headings that the UAS may take due to malfunctions and the type of launch.

(2) System for flight termination and recovery (i.e., parachute and/or other functions which would affect flight safety).

(3) The methods for obtaining real-time position of the UAS in flight, such as visual, manned chase airplane, radar, telemetry, etc.

(4) The procedures for Area Surveillance IAW paragraph 4-2.

(5) Aerodynamic data used to determine flight safety grids which will include, but not be limited to, glide ratio of the UAS, detailed performance data (including system time delays), location of launch site, intended recovery site, parameters of the flight area, and method of area surveillance (such as visual, manned aircraft, or radar).

The proponent for this regulation is the Directorate of Plans, Training, and Security. Users are invited to send comments and suggested improvements on a DA Form 2028, (Recommended Changes to Publications) through channels to DPTS, Fort Pickett, VA 23824.

OFFICIAL:

THOMAS P. WILKINSON

Colonel, Infantry

Commander

Appendix A - References

Section I – Required Publications

AR 95-1, Flight Regulations

AR 95-23, Unmanned Aircraft System Flight Regulations

Fort Pickett 95-1, Flight Regulations

FM 3-04.15, Multi-Service Tactics, Techniques, and Procedures For The Tactical Employment Of Unmanned Aircraft Systems

Section II – Referenced Forms

DD Form 175, Flight Plan, Military

DD Form 175-1, Flight Weather Briefing

Appendix B – Glossary

Section I – Abbreviations

AGL: Above Ground Level
ARAC: Army Radar Approach Control
AT&A: Air Traffic and Airspace
ATC: Air Traffic Control
AVO: Air Vehicle Operator/Crewmember
COA: Certificate of Authorization
DAR: Department of the Army Representative (to the FAA)
EP: External Pilot
FAA: Federal Aviation Administration
IFR: Instrument Flight Rules
JUAS: Joint Unmanned Aerial Vehicle
MOA: Military Operations Area
MSL: Mean Sea Level
RC Aircraft: Remotely Controlled Aircraft
ROA: Remotely Operated Aircraft
ROA: Restricted Operation Area
ROZ: Restricted Operation Zone
SUAS: Small Unmanned Aerial Vehicle (Raven, Swiper, etc.)
TALS: Tactical Automated Landing System
TUAS: Tactical Unmanned Aerial Vehicle (SHADOW, HUNTER, etc.)
UAS: Unmanned Aircraft System
UAV: Unmanned Aerial Vehicle
VFR: Visual Flight Rules

Section II – Terms

Airspace Complex: The airspace under control of the Army to include R-6602, MOAs, and Public Use Airspace (Class D & C airspace)

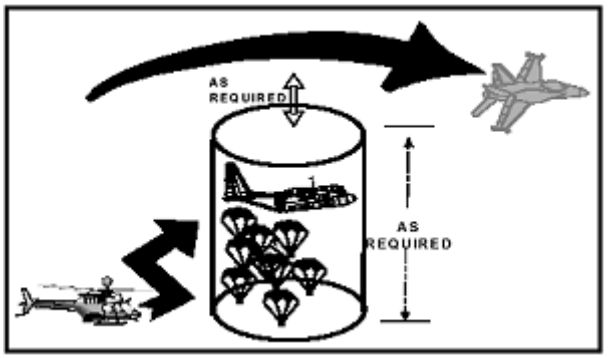
Airspace Safety Plan: A written plan that describes the overall Safety Risk Management Plan to include: normal and emergency operations, methods of control and surveillance of the UAS, and communications with Range Operations and ATC.

Air Traffic and Airspace (AT&A) Manager: The individual responsible for supervision and enforcement of applicable FAA and Army regulations governing use of the airspace and conduct of activities within the purview of AR 95-2

Coordinating Altitude: A procedural airspace control method used to separate fixed and rotary wing aircraft by determining an altitude below which fixed-wing aircraft will normally not fly,

and above which rotary-wing aircraft will normally not fly. The coordinating altitude is normally specified in an Airspace Control Plan and may include a buffer zone for small altitude deviations.

Restricted Operations Area (ROA) is that airspace of defined dimensions created in response to specific operational situations or requirements within which the operation of one or more airspace users is restricted. It is also known as a Restricted Operations Zone (ROZ). The ROA or ROZ significantly helps to de-conflict aviation operations, prevent duplicated effort, eliminate confusion and prevent fratricide by closely restricting airspace access over a designated surface area.



Special Use Airspace (SUA): Airspace designated by the FAA with specific vertical and lateral limits, established for the purpose of containing hazardous activities or activity that could be hazardous to nonparticipating aircraft. Limitations on non-participating aircraft may range from absolute exclusion to complete freedom of use within certain areas, depending upon the activity being conducted.

UAS Mission Profile: A detailed description of a UAS mission from launch to recovery to include UAS operating characteristics and limitations, launch and recovery site requirements, and airspace requirements.

Appendix C – Approved Launch Sites and Permanent ROZ Locations

Castles ROZ
Local name: Castles Assault Landing Zone:
Latitude and Longitude: N37^{o} 05’ 15.972” W77^{o} 53’ 00.708”
MGRS grid: 18S TG 437 085
Radius: 1 kilometer
Altitude: Surface to 800 feet Above Ground Level (AGL)
Duration: Launch and recovery period, normally NTE 15 minutes Only active until the UAS reaches the minimum altitude specified in paragraph 3-1B. Range Operations and ATC must be notified NLT 5 minutes prior to launch or recovery, allowing time to notify non-participating aircraft operating in the area.

IPBC ROZ
Local name: Infantry Platoon Battle Course
Latitude and Longitude: N37^{o} 00’ 07.776” W77^{o} 53’ 01.211”
MGRS grid: 18S TF 434 990
Radius: 1 kilometer
Altitude: Surface to 800 feet Above Ground Level (AGL)
Duration: Launch and recovery period, normally NTE 15 minutes. Only active until the UAS reaches the minimum altitude specified in paragraph 3-1B. Range Operations and ATC must be notified NLT 5 minutes prior to launch or recovery, allowing time to notify non-participating aircraft operating in the area.

Lake ROZ
Local name: Nottoway Reservoir
Latitude and Longitude: N 36^{o} 59’ 02.061” W77^{o} 57’ 57.942”
MGRS grid: 18S TF 360 972
Radius: 1 kilometer
Altitude: Surface to 800 feet Above Ground Level (AGL)
Duration: Launch and recovery period, normally NTE 15 minutes. Only active until the UAS reaches the minimum altitude specified in paragraph 3-1B. Range Operations and ATC must be notified NLT 5 minutes prior to launch or recovery, allowing time to notify non-participating aircraft operating in the area.

Appendix D – UAS Mission Profile Checklist

The UAS operator must provide as much of the following information as possible to enable the AT&A, Range Operations, Environmental, and Safety Offices at Fort Pickett to determine the feasibility of the proposed UAS operation. Also provide any additional information, such as previous feasibility studies that will help determine local feasibility. The UAS operator should anticipate additional specific vehicle related questions and/or requirements to fulfill the needs of the coordinating offices. NOTE: A tabbed folder is recommended.

1. General description of vehicle to include dimensions, weights, and picture(s).

2. Description of planned mission and flight profiles at Fort Pickett, to include launch and recovery site, route and altitude to and from mission area, mission area, mission altitude, and if applicable, return home (Lost-Link) route and altitude.

3. Performance data to include climb rate, turn capability, cruise speed, normal and maximum mission altitudes, glide ratio, takeoff and landing distances, and maximum speed, fuel endurance and range.

4. Vehicle flight history data including number of flights, flight hours, vehicle reliability, number of accidents, and types of accidents.

5. Description of command/control system to include subsystem block diagram, effective range (RF link analysis), frequencies, and personnel required to operate the system.

6. Description of pre-takeoff checks and procedures to verify the UAS control system functions correctly.

7. What type of information is available to the pilot such as map displays, telemetry data, etc. for the UAS mission?

8. What happens if the control signal is lost (loss of carrier) (link loss) or if control system does not respond to commands? Does the control system possess automatic reversion or “return home” modes?

9. Description of the Flight Termination/Recovery System, including an Auto Recovery System if applicable.

10. Meteorological restrictions on operations.

11. A Flight Controllers Manual or operating procedures as applicable.

12. Response to typical in-flight emergencies such as loss of engine

13. Identify any classified equipment, hazardous systems, chemicals, pyrotechnics, etc. on the vehicle.

14. A copy of a risk analysis/assessment on the UAS system.

15. A risk assessment for the mission to be flown. NOTE: If the intent is to fly over soldiers we require a risk assessment specifically addressing this requirement.

16. Pilots certification (who certifies/licenses), hours of time with the system, number of flights.

17. Environmental assessment documents pertinent to the vehicle and/or operation.

18. What type of fuel is used, what is the vehicles fuel capacity, how much fuel will be stored on site and how will it be stored.

19. Safety area and/or ROZ around the vehicle during launch and/or recovery.

APPENDIX E – Recovery of Unmanned Aerial Systems

Section I – General

1. This appendix outlines recovery and safety considerations for downed Army Shadow and Raven UASs and may not be applicable to all UAS. The following procedures are intended to be a major part of the UAS Pre-Accident Plan which is designed to prepare the unit for an accident if one should occur.

2. A Pre-Accident Plan is designed to ensure that each AVO will know what to do if there is a UAS accident. Practicing the plan will ensure that UAS recovery is completed in a safe and timely manner.

3. Recovery of a downed UAS is a unit responsibility. The Maneuver Training Center is not responsible for recovery operations, only incident management and implementation of necessary control measures and notification procedures.

4. Safety Risk Management by all participating recovery personnel is the foremost consideration, as most UASs may have one or more items that are classified as hazardous materials (HAZMAT) (for instance, fuel, batteries, parts of the sensor payload, etc.). Commanders should ensure a comprehensive recovery plan is created, documented, and trained on a regular interval.

5. Accident Reporting

A. In the event of a downed UAS, the MC ensures Range Operations and ATC are notified via FM, VHF, or UHF to confirm last known location of UAS.

B. Range Operations maintains a running log (DA 1594) of all actions taken, agencies notified, and names with times of contact.

Downed Aerial Vehicle Kit List

All items contained in the downed UAS kit will be secured. The downed UAS kit includes, but is not limited to the following items (Table E-3):

Table E-3. Example of a Shadow Downed UAS Kit Checklist

Items	Quantity
Cell phone or two-way radio to base	1 each
Digital or Standard Camera	1 each
Standard Camera film	*
Camera batteries	*
Lap Top computer for compiling data	1 each
Tape recorder (small)	1 each
Blank tapes	3 or 4 each
Tape Recorder batteries	*
GPS to plot wreckage, obtain headings, & spot elevation	1 each
Map - 1:50,000 (good), 1:25,000 (preferred).	*
Magnifying glass	*
Magnetic compass	*
Tape measure: 50’ or 100’ (preferred).	*
Ruler (12" or 18").	*
First-aid kit with tweezers	*
Latex/vinyl gloves	3-4 dozen
Leather gloves	4 pairs
Dust masks	2-3 dozen

Goggles or safety glasses	4 sets
Boundary tape to mark site perimeter 500’	*
Graph paper on clipboard	*
Pens/pencils, markers, chalk, & spray paint	*
Pocket-size notebooks	4 count
Calculator	2 count
Baggies	4 dozen – gallon size
Pre-labeled AOAP Bottles	1 each-fuel
Paper towels or equivalent	*
Spill Kit	*
Tool Kit	*
Flashlight	2 count
Flashlight batteries	*
DA Form 2823 Sworn Statement x 20	*
DA Form 7305-R Telephonic Notification of Aviation Accident / Incident	*
DA Form 7306-R Telephonic Notification of Ground Accident	*
Biohazard bags	*
HMMWV with trailer to transport supplies and collect wreckage	*
Aircraft when aviation support is available	*

*Quantity at unit discretion

Table E-4. Example of a Shadow Spill Kit Checklist

Items	Quantity
Absorbent pads	2 boxes
Short handle shovels	2 each
Pick axe:	1 each
Sledge hammer	1 each
Wooden stakes	25 each
Large garbage bags w/ties	100 count
Sand bags	25 each
55 gal removable top drum	1 each
Lights (portable):	1 set
Gloves (chemical):	10 sets
Safety masks (dust):	10 each
Sheet, plastic	1 roll
Yellow "off limits" tape	1 box
Dry sweep	1 bag.
Goggles	3 pairs

Table E-5 Example of a Small Downed UAS Recovery Kit Checklist

Items	Quantity
Rope	*
Saw	*
Tree spikes and climbing harness (for tree climbing).	*
Folding ladder	*
Extension pole / hook	*
Net or poncho liner to catch / prevent further damage to UAS falling from tree	*
Gloves	*
Goggles	*
Night vision devices	*

* Quantity at unit discretion

BY ORDER OF THE GOVERNOR:

The proponent office for this regulation is the Division of Plans, Training and Security, Fort Pickett. Users are invited to send comments and suggested changes to ARNG-MTC, ATTN: NGVA-MTC-OTB.

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